PATENT
Reply under 37 CFR 1.116
EXPEDITED PROCEDURE
Group 2853

AMENDMENT(S) TO THE CLAIMS

1. (Currently amended) A method of printing on a print medium with a printhead in an ink jet printer, said printer having equipment for advancing the medium which requires a minimum distance the print medium must be moved in an advance direction to overcome advancement errors associated with the equipment for advancing the medium, to thereby move the medium a reliable distance, said method of printing comprising the steps of:

advancing the print medium in said advance direction a predetermined amount during a first advancing step;

printing on the print medium with the printhead in an area corresponding to said predetermined amount during a first printing step;

determining an end of printable area on the print medium in said advance direction;

advancing the print medium in said advance direction a fixed minimum reliable move amount during a second advancing step, dependent upon said determining step, said fixed minimum reliable move amount being equal to said minimum distance the print medium must be moved to overcome advancement errors associated with the equipment for advancing the medium and less than said predetermined amount; and

printing on the print medium with the printhead in an area corresponding to said minimum reliable move amount during a second printing step.

2. (Original) The method of printing of claim 1, wherein said first printing step is carried out using multiple pass printing, said multiple being an integer p.

3. (Previously presented) A method of printing on a print medium with a printhead in an ink jet printer, said printer having a minimum distance the print medium must be moved in an advance direction to overcome advancement errors associated with equipment for advancing the medium, to thereby move the medium a reliable distance, said method of printing comprising the steps of:

advancing the print medium in said advance direction a predetermined amount during a first advancing step;

printing on the print medium with the printhead in an area corresponding to said predetermined amount during a first printing step;

determining an end of printable area on the print medium in said advance direction;

advancing the print medium in said advance direction a fixed minimum reliable move amount during a second advancing step, dependent upon said determining step, said minimum reliable move amount being equal to said minimum distance and less than said predetermined; and

printing on the print medium with the printhead in an area corresponding to said minimum reliable move amount during a second printing step;

wherein said first printing step is carried out using multiple pass printing, said multiple being an integer p; and

said determining step including:

calculating whether the following mathematical relationship is true:

$$(Rt - (Rm * p)) - Rl \leq 2 * Rp$$

where,

Rt = a total number of raster lines in said printable area;

Rl = a current raster line number associated with said printhead which is closest to said end of printable area;

Rp = a number of raster lines corresponding to said predetermined amount; and

Rm = a number of raster lines corresponding to said minimum reliable move amount.

4. (Original) The method of printing of claim 3, wherein if said calculating step is a true boolean expression, then resetting said predetermined amount to a distance corresponding to ((Rt – (Rm * p)) – Rl) / 2.

5. (Original) The method of printing of claim 4, including the step of repeating said first advancing step and said first printing step two remaining times.

6. (Original) The method of printing of claim 4, wherein said multiple pass printing corresponds to four pass printing.

7. (Original) The method of printing of claim 1, wherein said predetermined amount corresponds to an integer divisor of a height of the printhead.

8. (Original) The method of printing of claim 1, wherein said first printing step is carried out using multiple pass printing, said multiple being an integer p, and wherein said printing is carried out such that a distance d near said end of printable area subject to print degradation is represented by a mathematical expression:

$$d = (n - 1) * m$$

where,

m = minimum reliable move amount; and

n = number of passes at bottom of page = p.

9. (Original) The method of printing of claim 1, wherein said second printing step is carried out using multiple pass printing, and including the steps of repeating said second advancing step and said second printing step until a nozzle of said printhead closest to said end of printable area is immediately adjacent to said end of printable area, and then repeating said second printing step without repeating said second advancing step until said multiple passes on said printable area are complete.

10. (Currently ammended) A method of printing on a print medium with a printhead in an ink jet printer having equipment for advancing the medium which requires a minimum distance the print medium must be moved in an advance direction to overcome advancement errors associated with the equipment in the printer for advancing the medium, to thereby move the medium a reliable distance, said method of printing comprising the steps of:

printing on the print medium using multiple pass printing, including the repetitive substeps of:

advancing the print medium in an advance direction a predetermined amount during a first advancing step; and

printing on the print medium with the printhead in an area corresponding to said predetermined amount during a first printing step;

determining an end of printable area on the print medium in said advance direction; and

printing on the print medium using adjusted multiple pass printing, dependent upon said determination of said end of printable area, including the repetitive substeps of:

advancing the print medium in said advance direction a fixed minimum reliable move amount during a second advancing step, said fixed minimum reliable move amount being equal to said minimum distance the print medium must be moved to overcome advancement errors associated with the equipment for advancing the medium and less than said predetermined amount; and

printing on the print medium with the printhead in an area corresponding to said minimum reliable move amount during a second printing step.

11. (Original) The method of printing of claim 10, wherein said multiple pass printing of said first printing step is carried out with a multiple represented by an integer p.

12. (Previously presented) A method of printing on a print medium with a printhead in an ink jet printer having a minimum distance the print medium must be moved in an advance direction to overcome advancement errors associated with equipment in the printer for advancing the medium, to thereby move the medium a reliable distance, said method of printing comprising the steps of:

printing on the print medium using multiple pass printing, including the repetitive substeps of:

advancing the print medium in an advance direction a predetermined amount during a first advancing step; and

printing on the print medium with the printhead in an area corresponding to said predetermined amount during a first printing step;

determining an end of printable area on the print medium in said advance direction; and

printing on the print medium using adjusted multiple pass printing, dependent upon said determination of said end of printable area, including the repetitive substeps of:

advancing the print medium in said advance direction a fixed minimum reliable move amount during a second advancing step, said minimum reliable move amount being equal to said minimum distance and less than said predetermined amount; and

printing on the print medium with the printhead in an area corresponding to said minimum reliable move amount during a second printing step;

wherein said multiple pass printing of said first printing step is carried out with a multiple represented by an integer p; and

said determining step including:

calculating whether the following mathematical relationship is true:

$$(Rt - (Rm * p)) - Rl \leq 2 * Rp$$

where,

Rt = a total number of raster lines in said printable area;

Rl = a current raster line number associated with said printhead which is closest to said end of printable area;

Rp = a number of raster lines corresponding to said predetermined amount; and

Rm = a number of raster lines corresponding to said minimum reliable move amount.

13. (Original) The method of printing of claim 12, wherein if said calculating step is a true boolean expression, then resetting said predetermined amount to a distance corresponding to ((Rt – (Rm * p)) – Rl) / 2.

14. (Original) The method of printing of claim 10, wherein said second printing step using adjusted multiple pass printing includes the substeps of repeating said second advancing step and said second printing step until a nozzle of said printhead closest to said end of printable area is immediately adjacent to said end of printable area, and then repeating said second printing step without repeating said second advancing step until said multiple passes on said printable area are complete.